

PROCEEDINGS
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SIX NEW SPECIES OF CHINAIA FROM CENTRAL
AMERICA (HOMOPTERA: CICADELLIDAE)

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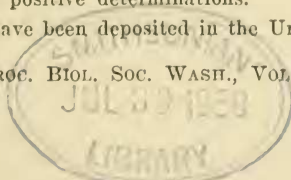
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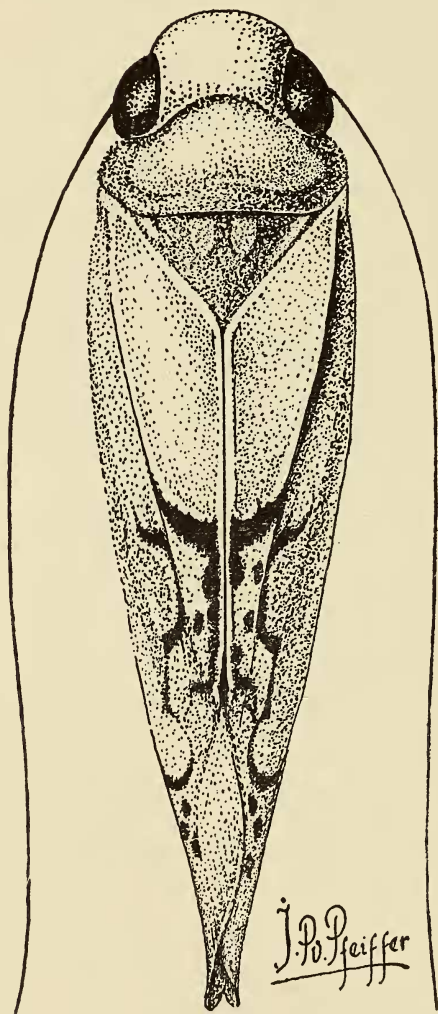
The new species characterized herein are all brightly colored leafhoppers of the genus *Chinaia*, and closely resemble the genotype, *Chinaia bella* Bruner and Metcalf (1934 Bull. Brooklyn Ent. Soc. 29(3):120-124). Inasmuch as the genotype was illustrated adequately, it has not been redrawn for this Publication. While the type series of *bella* was collected on avocado, indicating potential economic importance, no host records exist for any of the new species.

The general color patterns of the new species are very similar. All have an unmarked yellow to pale orange head, whereas that of *bella* is bordered posteriorly with bright orange. Like *bella*, they all have orange to bright orange lateral and posterior pronotal margins. In each species the large scutellum is predominantly orange. Anteriorly the clavus is pale yellow with a greenish cast, which is separated from the distal orange portion by an oblique dark brown marking. There are also additional brown markings in the distal portion of the clavus. *Chinaia permista* new species is the only one having an orange mark on the clavus like that of *bella*. The corium ranges from yellow to orange with or without brighter orange bands of varying distinctness. In most species there is an additional wavy pink band on the corium which is bordered distally with dark brown. The apical portions of the tegmina are light fumose hyaline with spots of dark brown. Venation is apparent only in the apical portion. The venter and legs range from yellow to pale orange.

Chinaia lepida new species [Plate I] serves as a general habitus for all of the species described in this paper. The exceedingly long antennae are frequently broken so that they often appear much shorter than illustrated. Even though color pattern seems to have some value in the recognition of species, study of the male genital structures is necessary for positive determinations.

All types have been deposited in the United States National Museum.





Chinaia bifurcata new species

Length.—Male 5.25 mm.

Coloration.—Venter and legs, stramineous to yellow; face, vertex, and antennae pale orange. Pronotum pale orange fading to whitish with orange lateral and posterior margins. Scutellum orange with two colorless oval areas toward anterior margin and small colorless strips anteriorly along lateral margins. Clavus yellow with vague greenish cast, its tip orange with irregular anterior oblique dark brown marking and spots near claval suture. Corium basally bright orange deepening to red orange distally with a longitudinal wavy pink band terminating in inner anteapical cell. Terminal portion of band bordered with dark brown. Apical portions of tegmina pale fumose hyaline with whitish areas, veins red bearing dark brown circular spots. Three narrow evanescent brown stripes, one through outer apical cell from costal margin, another along front margin of outer apical cell from costal margin, and third anterior to outer apical cell. Scattered areas of waxy bloom on tegmina.

Male genital structures.—See Plate II, figs. D1, D2, and D3. Pygofer process long slender, somewhat irregular, slightly decurved with sharply bifurcate apex. Aedeagus in lateral view short stout, the shaft narrowed but little with apex rounded.

HOLOTYPE Male, Trinidad River, Panama, May 6, 1911, August Busck. U.S.N.M. type number 64099. Female unknown.

The bifurcate pygofer process separates this species from all others in the genus.

Chinaia caprella new species

Length.—Male 5.5 mm.

Coloration.—Venter, legs, face, vertex, antennae, pronotum, scutellum as in *bifurcata*. Clavus basally yellow with faint greenish cast separated by dark brown oblique stripe from apical three-eighths which is orange with few dark spots. Corium yellow with three indistinct broad oblique orange bands, dark margined wavy pink band limited to distal portion. Orange bands fused to form a stripe along claval suture. Apical portions of tegmina with veins dull yellow, membrane fumose orange hyaline with dark spots. Three evanescent narrow brown stripes as in *bifurcata*. Waxy bloom on central area of costal margin.

Male genital structures.—See Plate II, figs. E1, E2, E3. Pygofer process "S" shaped. Aedeagus in lateral view long, stout basally, tapering to a sharp upturned tip.

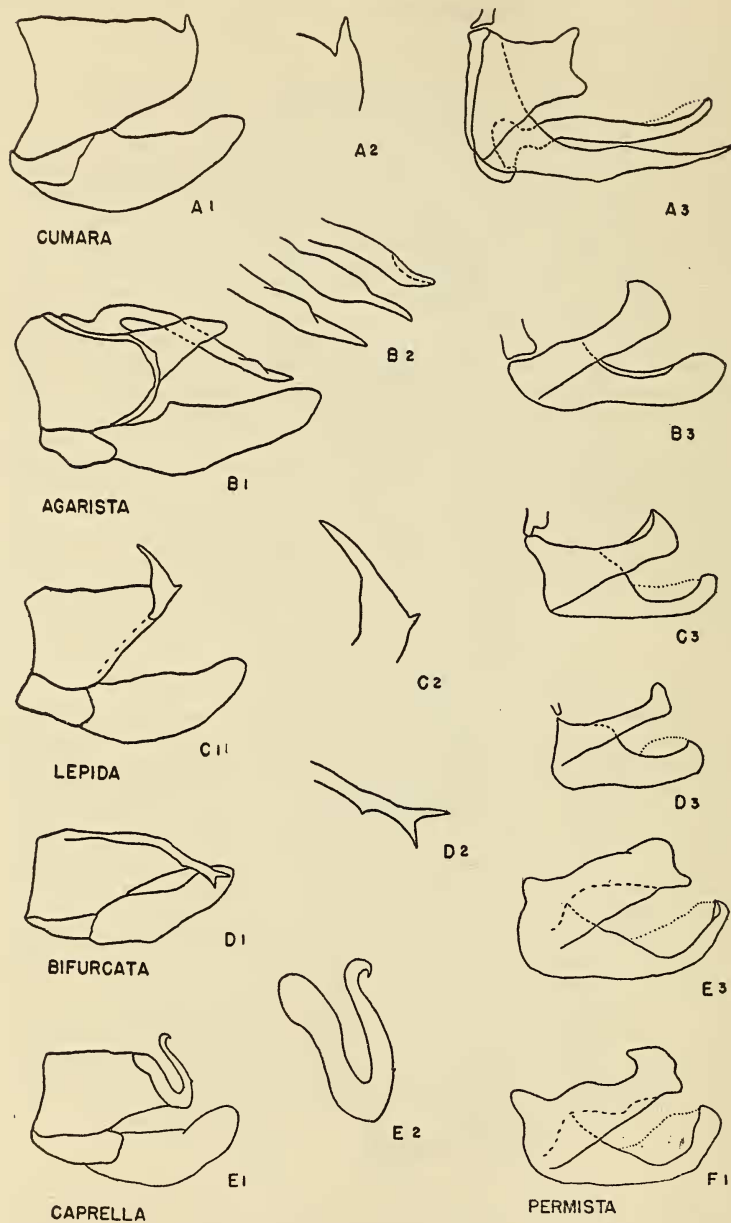
HOLOTYPE Male, Panama Swamp (near Colón), Panama, Nov. 20, 1951, F. S. Blanton. U.S.N.M. type number 64100. Female unknown.

The "S" shaped pygofer process will separate *caprella* from all others but *permista*. The lack of an orange stripe on the anterior portion of the clavus will distinguish *caprella* from *permista*.

Chinaia permista new species

Length.—Male 5.3 mm.

Coloration.—Venter and legs as in *caprella*. Face, vertex, antennae tending toward dull orange. Pronotum and scutellum as in *caprella*. Clavus, proximal portion pale yellowish white with irregular medially



located orange stripe from anterior border to commissural margin, distal three-eighths orange separated by oblique brown stripe. Corium marked as in *caprella* with three oblique orange bands, first and third of which are broken, on pale yellowish white. Pink stripe absent. Rest of tegmina like *caprella*.

Male genital structures.—See Plate II, fig. F1. Pygofer process as in *caprella*. Aedeagus in lateral view like *caprella* except slightly heavier and lateral flaps of a different shape.

HOLOTYPE Male, Panama Summit (16 km. N.W. of Balboa), Canal Zone, January, 1947, N. L. H. Krauss. U.S.N.M. type number 64101. Paratype male, Madden Dam (35 km. S.E. of Colón), Canal Zone, April 28, 1952, F. S. Blanton. Female unknown.

Close to *caprella* but appears paler and with differences in aedeagus and orange stripe on anterior portion of clavus. However, additional material may show that the characters here interpreted as distinguishing *caprella* and *permista* intergrade. If so, in the absence of evidence of reproductive isolation, *permista* should be suppressed as a synonym.

Chinaia cumara new species

Length.—Male 5.8 mm.

Coloration.—Venter, legs, face, vertex, antennae as in *bifurcata*. Pronotum pale yellowish white with very wide red orange lateral and posterior margins. Scutellum as in *bifurcata*. Clavus, anterior half, pale yellow with a greenish cast and pale border; posterior half orange separated by a dark brown oblique stripe, three small brown spots along commissural margin. Corium orange with vague pink stripe bordered distally by dark brown. Three evanescent brown stripes as in *bifurcata*. Apices of tegmina fumose hyaline, veins orange bearing brown spots. Waxy bloom on central area of costal margin.

Male genital structures.—See Plate II, figs. A1, A2, and A3. Terminus of pygofer short upturned and somewhat fingerlike. Aedeagus in lateral view very slender, slightly reflexed toward tip and flanked by a long sharp process on each side. Only one of these processes is shown in the drawing.

HOLOTYPE Male, Trece Aguas (vicinity of Cacao), Alta Verapaz, Guatemala, April 14, 1906, Barber and Schwarz. U.S.N.M. type number 64102. Female unknown.

The short terminus of the pygofer and paired processes which flank the aedeagus are distinctive.

Because the components of the genital capsule depart quite markedly in form from the other new species, *cumara* may represent a distinct genus. However, a conservative treatment places *cumara* in *Chinaia*.

Chinaia lepida new species

Length.—Male 5.3 mm.

Coloration.—Venter, legs, face, vertex, antennae, pronotum, scutellum is in *bifurcata*. Clavus as in *caprella*. Corium orange with indistinct wavy pink stripe bordered distally by dark brown. Three narrow evanescent brown stripes as in *bifurcata*. Apical portions of tegmina pale fumose hyaline with veins concolorous and difficult to discern. Veins bearing dark brown spots.

Male genital structures.—See Plate II, figs. C1, C2, and C3. Pygofer process subtriangular. Aedeagus in lateral view similar to *bifurcata* but shaft narrower and dorsal portion of base attenuated.

HOLOTYPE Male, Fort Gulick (4.5 km. S. of Colón), Canal Zone, Dec. 18, 1956, taken in light trap. U.S.N.M. type number 64103. Female unknown. Plate I illustrates *lepida*. The subtriangular pygofer process is distinctive.

Chinaia agarista new species

Length.—Males 5.6 mm. to 6.2 mm.; holotype 5.9 mm.

Coloration.—Venter, legs, face, vertex, antennae, pronotum, clavus, corium, and apical portions of tegmina as in *lepida*. Basal half of scutellum yellow, apical half orange. One paratype with scutellum colored as in *bifurcata*.

Male genital structures.—See Plate II, figs. B1, B2, and B3. Pygofer process long and spearlike, decurved with variations in apex as noted in drawings. Variations appear with rotation. Aedeagus in lateral view with basal part and tip rather bulbous and shaft narrowed.

HOLOTYPE Male, David, Panama, Dec. 13, 1952, F. S. Blanton. U.S.N.M. type number 64104. Paratypes, 2 males: David, Panama, Dec. 14, 1952, F. S. Blanton; Aguadulce, Panama, Nov. 21, 1952, F. S. Blanton. Female unknown.

The spearlike pygofer process is distinctive.

The following list includes all species described in or assigned to *Chinaia*. A revision may indicate generic misplacement of some of these species.

Check-list of species of *Chinaia*

1. *agarista* Kramer 1958—Panama
2. *bella* Bruner and Metcalf 1934—Costa Rica
3. *bifurcata* Kramer 1958—Panama
4. *caprella* Kramer 1958—Panama
5. *citrina* Evans 1947—British Guiana
6. *cumara* Kramer 1958—Guatemala
7. *lepida* Kramer 1958—Canal Zone
8. *ornata* (Osborn) 1924 [Neocoelidia]—Colombia
9. *permista* Kramer 1958—Canal Zone
10. *punctata* (Osborn) 1923 [Neocoelidia]—Bolivia
11. *rlbescens* (Fowler) 1909 [Tettigonia]—Panama
12. *smithii* (Baker) 1898 [Neocoelidia]—Brazil
13. *undata* Linnavuori 1956—Brazil

Plate I. *Chinaia lepida* new species, male

Plate II. Explanation of figures A-F. Parts of male genital structures:

1. lateral view of pygofer, valve, and male plate;
2. enlarged pygofer process;
3. lateral view of aedeagus.

Note: series 1 drawn at 60x, series 2 at 120x, and series 3 at 120x.

All drawings made with aid of camera lucida.